REMARKS

In the Office Action, the examiner rejected Claims 1-8, 13-20, 22-26 under 35 U.S.C. 102(b) as being anticipated by Kai et al. (U.S. Patent No. 5,329,130).   Accordingly, the applicant has amended Claims 1, 13 and 22 to more clearly differentiate the present invention from the technology disclosed by the cited Kai et al. reference.   The applicant has canceled Claims 9-12 and 21 and 27 which are in the non-selected group of invention.

As recited in Claim 1 concurrently amended, the essential features of the present invention reside in the fact that (1) the first buffer memory and the second buffer memory respectively store the exposure data, (2) the comparing section compares the exposure data from the first buffer memory with the exposure data from the second buffer memory, and (3) the exposure data stored in the first buffer memory and the exposure data stored in the second buffer memory are identical to one another when no error is involved in the electron beam exposure apparatus.   Claims 13 and 22 concurrently amended have substantially the same limitation as that of Claim 1.   The cited Kai et al. reference does not show or suggest these essential features of the present invention as discussed below.

The cited Kai et al. reference is directed to a charged particle beam exposure method and apparatus for drawing a pattern on a substrate while continuously moving the stage by deflecting a charged particle beam.   The main buffer memory 64 stores the

-25-

pattern data indicating the position coordinate of each subfield of the substrate (deflection data D1), and the sub-buffer memory 49 stores the pattern data inside the corresponding subfield (shot data) as described at column 8, lines 19-59. Accordingly, it is apparent that the pattern data stored in the main buffer memory 64 and the pattern data stored in the sub-buffer memory 49 are different from one another.

In the present invention, however, as noted by the features (1) ad (3) above, the first buffer memory and the second buffer memory store the same exposure data. This is because one of the major objects of the present invention is to detect the abnormality in the exposure data caused by the buffer memory when first buffer memory does not operate properly. Thus, when there is no error in the first buffer memory (electron beam exposure apparatus), the exposure data stored in first buffer memory and the exposure data stored in the second buffer memory are identical to one another. Since the buffer memories 49 and 64 shown in the cited Kai et al. reference store the pattern data different from one another, the cited Kai et al. reference does not show or suggest the features (1) and (3) of the present invention.

In the office action, the examiner equates the comparing section in the electron beam exposure apparatus of the present invention with the first correcting operation means 25 shown in Fig. 5 of the cited Kai et al. reference. However, the correcting operation means 25 of Kai et al. does not compare the two exposure

data. As shown at column 6, lines 56-59 of the cited Kai et al. reference, the first correcting operation means 25 carries out a first correcting operation with respect to the first deflection data D_1 so that it is described in a coordinate system of the stage 35. In other words, the correcting operation means 25 converts the deflection data D_1 to match the operation of the stage 35, i.e, does not compare the two pattern data.

Similarly, as shown at column 6, lines 59-64, the second correcting operation means 26 carries out the first correcting operation and a second correcting operation with respect to the second deflection data D_2 so that a rotation error component of the substrate 36 relative to the stage 35 is described in the coordinate system of the stage 35. In other words, the correcting operation means 26 converts the deflection data D_2 to match the operation of the stage 35, i.e, does not compare the two pattern data. Moreover, the correcting operation circuit 56 in Fig. 6 of the cited Kai et al. reference is not able to compare the pattern data from the buffer memories 49 and 64 because, as can be seen from the circuit structure, it is not possible to receive the pattern data from the main buffer memory 64. Therefore, the cited Kai et al. reference does not show or suggest the feature (2) of the present invention.

As discussed above, since none of the essential features of the present invention are shown or suggested by the cited Kai et

al. reference, the applicant believes that the rejection under 35 U.S.C. 102(b) is no longer applicable to the present invention.

The applicant has added claims 28 and 29 directed to the procedure when the comparison result of the exposure data is either consistent or inconsistent. These features are supported by the descriptions in the paragraph [0071].
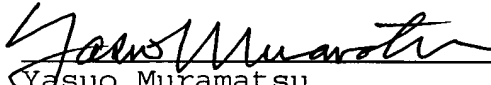
In this opportunity, the applicant has amended the specification to correct minor wording errors therein. This is to verify that no new matter has been introduced by this amendment. The abstract of the disclosure has been amended to be consistent with the amendment in the claims.

Under the circumstances, the applicant believes that the present application is in the condition for allowance, and the applicant respectfully requests that the present application be allowed and passed to issue.

Respectfully submitted,

MURAMATSU & ASSOCIATES

Dated: _____9/30/05_____   By: _____
                                      Yasuo Muramatsu
                                      Registration No. 38,684
                                      Attorney of Record
                                        114 Pacifica, Suite 310
                                      Irvine, CA 92618
                                      (949) 753-1127

AMD-RY02.002
092905